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A Summary of Current Programs
and Report of Progress

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DEVELOPMENT AND TRADE

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ANALYSIS DIVISION

CURRENT CATALOG RECORDS

of the

ECONOMIC RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

1963/64

and related work of the

STATE AGRICULTURAL EXPERIMENT STATIONS

This report is primarily a tool for the use of scientists and administrators in program coordination, development and evaluation; and for use of advisory committees in program review and development of recommendations for future research programs.

The summaries of progress on U.S.D.A. research include some tentative results that have not been tested sufficiently to justify general release. Such findings, when adequately confirmed, will be released promptly through established channels. Because of this, the report is not intended for publication and should not be referred to in literature citations. Copies are distributed only to members of Department Staff, Advisory Committees and others having a special interest in the development of public agricultural research programs.

This summary includes a list of publications reporting results of research completed in the Development and Trade Analysis Division, Economic Research Service, U.S.D.A. between October 1, 1963 and September 30, 1964. Current research findings are also published in Agricultural Economics Research; Foreign Agricultural Trade of the United States; and Foreign Gold and Exchange Reserves.

UNITED STATES DEPARTMENT OF AGRICULTURE
Washington 25, D. C.
October 1, 1964

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INTRODUCTION

Foreign development and trade analysis research is concerned with four areas: effects of foreign economic development on agriculture; appraisal of agricultural export programs and market development; international monetary and trade analysis; and the analysis and evaluation of United States and world agricultural trade. The research objectives are the appraisal and the evaluation of the economic implications of policies and programs on U.S. foreign trade in agricultural products and the efficient use of excess U.S. produced food and other resources in economic development programs abroad. This information is employed in the formulation of national policies, positions, and programs in the four areas set forth above.

Research on foreign economic development and trade analysis is carried out in the Development and Trade Analysis Division of the Economic Research Service of the U.S. Department of Agriculture. During the period of this report--October 1, 1963, to September 30, 1964--approximately 33 professional man-years were devoted to research in the areas of foreign economic development and trade analysis, distributed as follows: 14.5 man-years to Effects of Foreign Economic Development on Agriculture; 3.0 man-years to Export Programs and Market Development; 6.4 man-years to International Monetary and Trade Research; and 8.6 man-years to Trade Statistics and Analysis.

Exports of agricultural products are of major importance to U.S. agriculture and to the U.S. balance of international payments. Total agricultural exports in 1963-64 reached a record level of \$6.1 billion. This was nearly \$1 billion above the level of 1962-63 and represented about 16 percent of total cash receipts from U.S. farm marketings. Expressed on an equivalent area basis these exports represented about 1 of every 4 harvested acres in the United States. Research in these areas has provided information needed to formulate policies, positions, and programs designed to strengthen an important segment of the nation's economic activities. A few examples from the research areas covered in this report are presented here:

Agricultural Exports Reached Record Levels in Fiscal Year 1963-64. U.S. agricultural exports totaled \$6.1 billion, 20 percent larger than the \$5.1 billion for the previous year. Nearly all of the \$1 billion increase was in sales for dollars which rose to \$4.5 billion. Exports of the Food-for-Peace Programs were at nearly the same level as in the preceding year. Exports for dollars constituted 74 percent of total exports and exports under Food-for-Peace Programs, 26 percent. Gains in exports occurred in wheat and flour, cotton, feed grains, soybeans, rice, tobacco, tallow, lard, dairy products, poultry

products and meat. U.S. agricultural exports to the European Economic Community increased approximately \$250 million from the level of 1962-63. Exports of commodities subject to variable import levies rose approximately \$50 million. The increases were concentrated in wheat, pork, feed grains, and certain poultry products. Exports of agricultural commodities to the EEC not subject to variable import levies rose approximately \$200 million from the levels of 1962-63. More than half of this increase was in cotton.

The gain in dollar exports, \$1 billion, was concentrated chiefly in wheat and flour, cotton, meat and livestock products, feed grains, oilseeds, protein meal and dairy products. Nearly 30 percent of the \$4.5 billion in dollar exports received export payment assistance in 1963-64 compared with 20 percent of the smaller dollar export total in 1962-63. Wheat, cotton, rice and dairy products accounted for a large proportion of the assisted dollar exports in 1963-64. Export payments for this fiscal year totaled somewhat more than \$800 million compared with slightly more than \$600 million in 1962-63.

U.S. Agriculture Benefits from Foreign Economic Growth. U.S. agricultural trade with the developed countries has grown about in line with increases in their national incomes. Imports of U.S. agricultural products by the less developed countries have expanded faster than their growth in per capita incomes and in future years the most rapid growth in our markets for farm products may be found in the undeveloped markets in the low-income countries. A recent study shows that in the less developed countries of Asia and Africa where per capita incomes are a little over \$100 a year, our commercial exports of farm products averaged about 25 cents per person during 1959-61. In Japan, where per capita incomes were about \$350 for the same years, our commercial exports of farm products averaged \$4.70 per person. In the countries of the European Common Market and European Free Trade Area, our farm exports averaged \$6.00 and \$7.00 per person, respectively. Generally, these results show that for total agricultural exports (commercial and non-commercial) the U.S. exported about \$1.00 worth of farm products for each \$100 of income in both the developed and less developed countries. Since 1938, imports of U.S. agricultural products by the developed and less developed countries have increased about 12 and 15 percent, respectively, for each 10 percent increase in their per capita incomes. These relationships suggest that a continuation of long-term world economic growth rates over the next two decades may result in a doubling of U.S. agricultural exports to all countries from the average level of \$4 billion during the late 1950's.

"Financial Procedures Under Public Law 480, Emphasis on Titles I and IV of the Agricultural Trade Development and Assistance Act". A report was published during the period describing the financial, banking, commercial, and government transactions involved in executing sales programs under Titles I and IV of Public Law 480. It explains the international financial procedures employed under Titles I and IV and the fiscal movement and accounting of U.S.-owned local currencies in the U.S. Department of the Treasury. The

discussion extends somewhat beyond these two aspects and examines the entire P.L. 480 program, from the acquisition of surplus U.S. agricultural products to final sale of the products to a foreign country and the subsequent utilization of the currencies generated. Also included is a brief description of the programs carried out under the other two titles of the law, Titles II and III.

Effects of the P.L. 480 Title I Program. Research studies have indicated that by helping to promote economic development in several countries the Title I program also has helped develop commercial markets for U.S. farm products. For example, commercial agricultural shipments to four important Title I recipients--Spain, Israel, Greece and Taiwan--increased from \$22 million annually during the 1955-60 period to an average of \$121 million annually from 1961-63. In recent years these countries have made significant gains in economic growth and have increased considerably their foreign exchange earnings. The largest expansion of U.S. commercial markets occurred in Spain. With termination of the Title I program in 1962 and a greatly improved level of foreign exchange reserves, Spain is now buying commercially, chiefly from the United States, all its soybean oil and feed grain imports, whereas, previously these commodities were obtained largely under the Title I program.

Israel has increased considerably its commercial purchases of several Title I commodities such as feed grains, oilseeds, rice and tobacco. During the early years of Israel's development, Title I imports of feed grains which could not have been purchased on the same scale commercially, were a vital factor in helping to develop a growing livestock enterprise and to stimulate an increasing demand for feed imports. The United States increased its commercial feed grain sales from 26,000 tons in 1954 to 205,000 tons in 1963, while other countries, such as Turkey, Cyprus, and Argentina, more than doubled their sales to Israel. Israel's commercial imports of oilseeds from the United States jumped from less than 4,000 tons in 1954, to 207,000 tons in 1963, while imports from other countries also increased.

U.S. dollar sales of agricultural commodities to Greece were over five times larger in 1963 than during the 1955-62 period. The Title I program enabled Greece to increase its agricultural imports during the 1955-62 period and thereby meet a growing domestic demand for food and feed that the country is now in a better position to meet through commercial imports. In particular, Title I shipments of feed grains helped expand domestic livestock production which stimulated a greater demand for grain imports from the United States. According to the Michigan State University study done under contract for USDA, Title I shipments had little adverse effect on Colombia's commercial trade with the United States. P.L. 480 shipments encouraged increased consumption of wheat and maintenance of fats and oils consumption.

The growing importance of the Food-for-Peace Programs in the total U.S. effort to aid the developing countries is illustrated by the fact that P.L. 480 aid increased from 37 percent of total net U.S. economic aid in 1957 to 50 percent in 1963.

AREA NO. 1

EFFECTS OF FOREIGN ECONOMIC DEVELOPMENT ON AGRICULTURE

Problem. Economic improvement of agricultural production and marketing is a major objective of development plans of low income countries. Generally, in these countries agriculture accounts for 60-80 percent of total employment and a third or more of national income. Research is needed to provide a more accurate measure of progress made in improving agricultural output and productivity under such plans and to provide a broader basis for gauging the effects of outside assistance, especially on production, consumption and trade in farm products. Many foreign countries are reappraising or revising their agrarian structures, an issue which is becoming increasingly important in most underdeveloped countries and in which the U.S. Government is taking an increasing interest. Research is needed to analyze systematically and continuously the problems inherent in the present system of land and water resource use, of tenure and other agrarian institutions in these countries, and to bring out the probable effects of changes in the land system on their economic growth in general and their agricultural development and trade in farm products in particular. Farm production, price, and marketing programs and policies of foreign countries have important impacts on foreign trade and market outlets for U.S. farm products. Comprehensive study of these programs and policies is needed to provide an informed basis for evaluating their effects on economic growth and development of agriculture as well as of the national economy of foreign countries and for expanding market prospects for U.S. farm products.

PROGRAM

A. Role of Agriculture in Foreign Economic Development Programs. As the major sector in the economies of less developed countries, agriculture employs about 60-70 percent of the labor force and accounts for about 40-60 percent of the total national product. Because of agriculture's importance in the total economy, national economic growth is often very highly dependent upon improvements in agricultural production. Increases in agricultural productivity contribute to national economic development and income growth by producing a marketable surplus for the non-agricultural sector and by making capital and manpower available for use in industry.

Although the importance of agriculture's contributions to national economic growth is generally known, adequate knowledge about the role of agriculture in stimulating national economic growth is lacking. More knowledge is needed about the growth process before national development programs can be improved. Research under this project includes the determination and measurement of agriculture's contribution to economic growth and the relationship of these contributions to the types of development programs needed in countries at

different stages of economic growth. The results of these studies will help to establish priorities for development programs and help to evaluate the effects of economic development in less developed countries on the demand for U.S. farm products, both current and potential.

B. Effects of Economic Development Upon Patterns of Foreign Trade. Rising incomes in many countries have increased their demand for U.S. agricultural products in recent years. Knowledge of how economic growth in countries at different stages of economic development affects the volume and composition of imports from the United States is needed to estimate the effect of continued economic growth throughout the world on future demand for U.S. exports, both farm and non-farm. Research under this project is concerned primarily with the determination and measurement of these "income-trade" changes so that the implications and problems of the shifting patterns of foreign trade on American agriculture can be better estimated. Identification and improved measurement of the interrelationships between development and trade is a continuing objective of these studies.

C. Impact of Rural Institutions and Land Policies on Economic Development and Trade. Research in this area was begun in response to requests by foreign governments and by United States and international economic development agencies for technical counsel on improving rural institutions of newly developing countries. Research in this area is concerned with land tenure patterns and problems, rural credit institutions, taxation, and governmental arrangements for improving education and other infrastructure, along with other factors which directly or indirectly affect agricultural productivity, rural welfare and markets for U.S. farm products.

D. Impacts of Foreign Production, Consumption, Price, and Marketing Policies on Agricultural Development and Trade. Information concerning agricultural production, consumption, price and marketing programs and policies in foreign countries is being brought together to provide an improved basis for evaluating how they influence supplies of farm products available for export, market outlets for U.S. farm products, and the agricultural development of foreign countries including the use of land and other resources, resource productivity, and incomes of farm people. Evaluation of development and trade potentials will involve study of income elasticities of demand for food and other agricultural products as well as marketing margins, urbanization trends and other factors. This material will also provide an informed basis for classifying countries with widely different economic and physical conditions and with widely different kinds of agricultural programs and policies for more detailed study.

E. Technology and Its Role in Agricultural Development with Particular Emphasis on Fertilizer. In efforts to expand world food supplies, particularly in the less developed countries, increasing attention is being directed to the role of technology, with major attention on fertilizer. Investigations are being carried out on the past and future role of fertilizer in increasing agricultural production. This analysis will assess the physical and economic potential for meeting world food needs through increased consumption of

fertilizer as well as provide an improved basis for development of necessary production and distribution facilities. Analysis will also be made of restrictions to increased fertilizer production and consumption, suggesting means by which such restrictions can be overcome. Underlying this program of work is the hypothesis that improved technology usually consists of a bundle of practices rather than a change in a single practice. Therefore, while major attention is given to fertilizer, it is not studied in isolation, but rather efforts are made to evaluate the kind and nature of changes required in production practices in order to effectively introduce and/or increase the use of fertilizer.

F. Agricultural Productivity Analysis. Research on "Factors Associated With Differences and Changes in Agricultural Production in Underdeveloped Countries" is being conducted under an agreement between ERS and the Agency for International Development concluded March 20, 1963. This study is directed toward providing an improved informational basis for programs of technical and economic assistance to underdeveloped countries, as well as for analyzing world agricultural production and trade potentials. It includes a review and analysis of available data on levels and changes in agricultural output, resource use, productivity, and related technical, economic, and institutional factors for individual countries and main regions of the world since 1940. The first phase of this project is a comparative analysis for 30 countries based mainly on secondary sources of information. The second phase consists of detailed studies in a small number of carefully selected countries with emphasis upon testing the major hypotheses developed in the comparative analysis.

G. Research Grants and Contracts Under P.L. 480. P.L. 480-104(k) research grants are supporting 13 studies: two in Finland, one in Spain, five in Israel, one in Pakistan, two in India, and two in Colombia. There is one P.L. 480-104(a) contract in the Philippines. At the end of this reporting period, 37 proposals for research studies originating in Syria, Egypt and the six above-mentioned countries were under consideration. During the past year 22 proposals were rejected.

To qualify for grants, proposed studies must have the potential to provide research findings of "direct value to U.S. agriculture." They must contribute to one or more of the following: (1) Improved research methodology and techniques useful in analyzing U.S. agricultural economic problems; (2) help solve U.S. agricultural economic problems, or (3) supplementation of regular ERS research studies appraising the competitive position of U.S. farm products in foreign markets. Findings from these grant studies that analyze important factors and developments affecting agricultural production, consumption and trade in specific countries are of basic importance to the ERS in discharging its functions.

Total Federal scientific effort devoted to research in this area was 14.5 professional man-years, divided as follows: 10.3 to Agricultural Productivity Analysis; 1.0 to Role of Agriculture in Foreign Economic Development Programs; 1.0 to Effects of Economic Development upon Patterns of Foreign Trade; 0.5 to Impact of Rural Institutions and Land Policies on Economic Development and Trade; 0.5 to Impacts of Foreign Production, Consumption,

Price, and Marketing Policies on Agricultural Development and Trade; 0.5 to Technology and Its Role in Agricultural Development with Particular Emphasis on Fertilizer; and 0.7 to Research Grants and Contracts under P.L. 480.

H. Program of the State Agricultural Experiment Stations. The States are showing increased interest in the effects of foreign economic developments on the agriculture of the states and regions. The North Central region has a project entitled "Implications of the European Common Market for Midwestern Agriculture" in which 10 midwestern states, one northeastern, and one southern state are participating. The USDA is also providing assistance on this project. This project will attempt to estimate the impact of the common market upon the future export possibilities for a number of farm commodities. This will involve an analysis of the likely effect which economic union will have on production and consumption of farm products in the EEC countries. An even more important question is the impact of the EEC effort to achieve common agricultural policies, internal and external. The competitive relationship between the United States and other countries competing for markets in the European Economic Community will also be investigated. U.S. agricultural policies, what they are, and what they need to be to cope with the Common Market, will be a later but a very important phase of the study. The study will translate the findings into implications for agricultural adjustment in the United States, especially the midwest. A western state, though not participating in NCM-33, has a research project investigating the possible effect of the EEC on the many varied products of the West Coast. The total research effort of the state stations devoted to evaluating foreign economic development is about 4.4 professional man-years.

REPORT OF PROGRESS

A. Analysis of the Role of Agriculture in Foreign Economic Development. Research under this project is directed toward identifying the relevant policies to be followed by countries in formulating strategies of development in their national programs, the mechanics of measurement of agriculture's contributions and the role of increased agricultural productivity in economic growth. The results of these studies show that it is difficult to develop precise measures for changes in agricultural productivity and the contributions that such gains make to national economic growth. Even more difficult is the problem of identifying and quantifying the conditions responsible for increased agricultural productivity and those which give impetus to the process of economic growth. Research on these factors and conditions affecting agricultural productivity is also being carried out in conjunction with work underway in (F) Agricultural Productivity Analysis.

B. Effects of Economic Development Upon Patterns of Foreign Trade. Results of completed studies show that the level of U.S. exports, both farm and non-farm, is closely related to the level of per capita income in importing countries. In the developed countries, since 1940, imports of agricultural products from the United States have just about kept pace with increases in national income per capita. For the same time period, however, imports of U.S. agricultural products by the less developed countries have expanded faster than growth in per capita incomes. These data suggest that a continuation of 1959-61 world economic conditions over the next two decades would result in a doubling of U.S. agricultural exports from the average level of \$4 billion during the 1950's. Furthermore, the market potential is greatest in the less developed countries if they can achieve a rate of economic growth equal to or greater than the developed countries. The higher potential in the less developed countries is associated with a more rapid growth in population and a higher income elasticity of demand for food, coupled with a more rapid growth in food demand than domestic sources can supply, even in the face of greatly improved production technology.

C. Impact of Rural Institutions and Land Policies on Economic Development and Trade. Work in this area has been carried on mainly as facets of research directed to an analysis of factors associated with differences and changes in agricultural production in underdeveloped countries as described under item F below. It has been concerned with tenure patterns, credit institutions, rural education and governmental and administrative systems and the relations of these to difference in levels and rates of change in agricultural production.

D. Impacts of Foreign Production, Consumption, Price, and Marketing Policies on Agricultural Development and Trade. Changes in the pattern of food consumption are being studied to determine their impacts on existing production, price, and marketing policies in less developed countries. The results of a

recent technical study show that the demand for food increases rapidly in less developed countries as incomes rise. Commercial demand for food at retail increases even more rapidly during development, reflecting shifts in population from farm to urban areas as well as increased incomes. The demand for food at retail may grow more than twice as fast as the demand for total food--often rising 15 percent with a 10 percent increase in per capita income. This increased retail food demand is accompanied by an increase in the demand for food marketing services and facilities. The increased commercial food demand frequently also means enlarged imports of U.S. agricultural products.

E. Technology and Its Role in Agricultural Development With Particular Emphasis on Fertilizer. Research under this project concerns the role technology plays in agricultural development with major attention directed toward fertilizer. Patterns of world production, distribution, consumption and pricing of fertilizers are being studied in the initial approach to determine the potential role of fertilizer as a means of meeting future world food needs. At a later date the physical response and economics of fertilizer use will be studied. The analysis so far shows that world fertilizer consumption increased from 13.7 million metric tons in 1950 to nearly 28 million tons in 1960. In view of concerted efforts to increase fertilizer usage, particularly in many of the less developed countries, consumption is expected to approach 90 million metric tons by 1980. Further work will be directed at analysis of price-cost relationships and physical response from fertilizer, inhibiting factors to increased fertilizer usage, and means of overcoming such restrictive elements. Four chapters are being written for a world fertilizer manual to be published by the United Nations. This manual will be useful to the less developed countries by providing information essential to the successful development of programs for expansion of both production and consumption of fertilizers.

F. Agricultural Productivity Analysis. Research directed to "Analysis of Factors Associated with Differences and Changes in Agricultural Production in Underdeveloped Countries" is being conducted in two main phases: Phase A consisting of a comparative analysis of recent changes in agricultural output, resource uses, and related technological, economic, social and institutional factors in 30 countries; and Phase B consisting of intensive process analysis within a few selected countries concerned with the processes by which underdeveloped countries make the transition from low to higher levels of agricultural output and productivity.

Phase A is scheduled for completion by the end of 1964. Considerable data relative to describing and explaining output and productivity changes have been collected for many of the 30 countries included in the study. For example, indices of crop production and annual growth rates of agricultural output have been calculated for most of the 30 countries and reports describing agricultural development have been prepared for Argentina, Egypt, Greece and Nigeria. A General Overview of Factors Associated with Differences in Levels and Rates of Change in Agricultural Output in Underdeveloped Countries was prepared and circulated as a work paper for use in a six-week conference at the Massachusetts Institute of Technology on agricultural productivity under

the sponsorship of AID. Work on Phase B has been initiated in Greece and Taiwan by ERS personnel located in these countries. Plans have been developed to initiate Phase B research in Mexico in 1964 and in four other countries in 1965.

G. Research Contracts and Grants Under P.L. 480. Contracts and grants were supporting 14 studies as of September 1964. Since none of these projects has been completed there are as yet no findings to report. Ongoing research projects in foreign countries are as follows:

Philippines

- (1) Economic Analysis of the Effects of Philippine Economic Development on the Demand for U.S. Farm Products;

India

- (2) Impact of Changing Conditions on Grain Marketing Institutions and Structure of Grain Markets in the Punjab, India;
- (3) Evaluation of the Impact of Land Reforms on the Structure of Land Holdings and Farm Production Potentials in Western India;

Israel

- (4) Social Factors Which Promote or Impede Changes in Agricultural Organization and Production in Israel;
- (5) Evaluation of Long-Term Programs for Agriculture with Respect to Requirements and Supply of Capital in Israel;
- (6) Quantitative Analysis of Optimal Water Resource Development and Allocation in Israel;
- (7) Comparative Analysis of Processes of Agricultural Development and Modernization in Israel;
- (8) Methods of Compilation of Agricultural Statistics in Israel;

Pakistan

- (9) Income Elasticity of Demand for Food Under Progressing Stages of Agricultural Development in Pakistan;

Finland

- (10) The Relation of Planning and Management to Success in Farming in Finland;
- (11) The Economics of Alternative Use of Land for Agriculture and Forestry in Finland;

Spain

- (12) Food Consumption in Relation to Family Income in the Rural Population in Spain;

Colombia

- (13) Marketing Rice in Colombia; and
- (14) Economic Aspects of the Production, Marketing and Utilization of Corn and other Feed Grains in Colombia.

AREA NO. 1--EFFECTS OF FOREIGN ECONOMIC DEVELOPMENT ON AGRICULTURE

PUBLICATIONS

- (1) "How the United States Improved its Agriculture," ERS Foreign-76. Raymond P. Christensen, William E. Hendrix, and Robert D. Stevens. March, 1964. Washington, D. C. 32 pp.
- (2) "The Mechanics of Agricultural Productivity and Economic Growth," Agricultural Economics Research, Vol. XVI, No. 3. Raymond P. Christensen and Harold T. Yee. July, 1964. 7 pp.
- (3) "The Role of Agricultural Productivity in Economic Development". Raymond P. Christensen and Harold T. Yee. This paper was presented at the 1964 Annual Meeting of the American Farm Economic Association, August 16-19, 1964. To be published in Proceedings Issue, Journal of Farm Economics, December, 1964.
- X (4) "Role of Agriculture in Economic Growth and Development," ERS, U.S.D.A. Arthur B. Mackie. A paper presented at a conference on Agriculture in Economic Development, University of Illinois, Urbana, Illinois, April 13, 1964. 23 pp. *con*
- X (5) "Policies for Agricultural Development," ERS, U.S.D.A. Wade F. Gregory. A paper presented at a conference on Agriculture in Economic Development, University of Illinois, Urbana, Illinois, April 13, 1964. 9 pp. *con*
- X (6) "Imbalance in World Agriculture," ERS, U.S.D.A. Kenneth L. Bachman. Paper presented at the Agricultural Policy Review Conference, Athens, Georgia. February, 1964. 13 pp. *con*
- (7) "International Trade and Economic Growth," Foreign Agricultural Trade of the United States. Arthur B. Mackie. March, 1964. 13 pp.
- (8) "Economic Growth Expands Agricultural Trade," Farmers World, 1964 Yearbook of Agriculture. Arthur B. Mackie and Kenneth L. Bachman. 1964. Washington, D. C. 4 pp.
- (9) "Problems in Economics," Farmers World, 1964 Yearbook of Agriculture. Raymond P. Christensen. 1964. Washington, D. C. 5 pp.
- (10) "Population, Income and Food," Farmers World, 1964 Yearbook of Agriculture. Robert D. Stevens. 1964. Washington, D. C. 5 pp.
- (11) "A Review of Measures of Farm Income for International Use," Indian Journal of Agricultural Economics, Vol. XVIII, No. 4. Robert D. Stevens. October-December 1963. 19 pp.

(12) "The Expanding World Fertilizer Market," Frank W. Parker, Donald D. Steward and Paul Peperzak. A paper presented at the Twelfth Annual California Fertilizer Conference, Fresno, California. Also published in Fertilizer News; New Delhi, India, March, 1964. January, 1964. 14 pp.

AREA NO. 2

EXPORT PROGRAMS AND MARKET DEVELOPMENT

Problem. Food-for-Peace shipments of more than \$1.5 billion annually continue to account for a sizeable share of U.S. agricultural exports, amounting to 26 percent of the total in 1964 as compared to 30 percent in 1963. In addition, an estimated 29 percent of the \$4.5 billion of commercial agricultural exports in 1964 received some form of export payment assistance. P.L. 480 aid currently accounts for approximately one-half of the net flow of U.S. foreign economic assistance to the developing countries. Consequently, there is continuing need for research and analysis of the impact and effects of these programs on U.S. agriculture and their implications for agricultural production, consumption, trade, and economic development in the recipient countries.

There also is a particular need for the study and analysis of the obstacles to the efficient and effective distribution of food and fiber aid to meet nutritional and economic development needs of recipient countries as well as the program techniques involved in supplying these needs. Since food aid programs are expected to continue to play an important role in alleviating world hunger and promoting political stability and foreign economic development in the years ahead, research on the economic implications of this aid will be needed more and more to provide a scientific basis for the analysis and evaluation of such questions as: (1) the effect of Food-for-Peace shipments on commercial trade of the United States and other countries, (2) the relative cost and benefits of alternative government export programs, (3) the use of surplus agricultural productive capacity to facilitate domestic and foreign economic development, and (4) the effect of agricultural commodity aid on the efficient use of agricultural resources and its relationship to farm incomes in both the United States and recipient countries.

PROGRAM

A. Effects of Public Law 480 on Economic Development and Trade. Emphasis is being given to basic and applied studies on the commodity and economic impact of P.L. 480 Title I and related Food-for-Peace Programs that have been completed for Colombia and are nearing completion for India, Turkey, Spain, and Greece. These studies include the analysis and evaluation of the impact of P.L. 480 imports on national agricultural policies and programs, prices and stabilization programs, consumption, commercial trade and international trade patterns. The individual country studies are being done under contract with U.S. and foreign economic research institutions in cooperation with the Foreign Agricultural Service in which Title I local currency market development funds are used. In addition, country analyses are made by the staff as the need arises and time permits.

As the individual country studies are completed and evaluated, increasing attention has been directed to the overall evaluation of functional aspects of food and fiber assistance programs as they relate to: (1) agricultural

prices, production and consumption in recipient countries, (2) commercial trade of the United States and other countries, including trade patterns and balance of payment problems, and (3) the use of P.L. 480 local currency loans and grants in support of economic development.

B. The Role of Food Aid in Economic Development. Continuing limited review and appraisal of the contribution of the P.L. 480 program to international aid and development is underway. With agricultural commodity aid accounting for practically one-half of the net outflow of U.S. economic aid, it appears that research in this area will be especially important in evaluating the obstacles to the effective and efficient use of food to meet nutritional and economic development needs and the improvements needed in food distribution techniques to meet special situations.

C. Interrelationships of Domestic and U.S. Export Programs. Important aspects of this research deal with (a) foreign grain pricing policies and the analysis of selected U.S. commodity export prices, domestic price supports, and their relationship to consumer prices and price support levels in P.L. 480 recipient countries, and (b) the analysis of U.S. concessional export programs including payment-in-kind and other direct export programs to facilitate commercial sales. Specific research in this general area is needed to appraise the economic relationships of domestic U.S. pricing policies and those of P.L. 480 and other importing countries as a basis for determining the differences between export and import prices and their impact upon achieving an efficient use of agricultural resources.

Total Federal scientific effort devoted to research in this area was 3.0 professional man-years, divided as follows: 2.0 to Effects of P.L. 480 on Economic Development and Trade; 0.5 to Role of Food Aid in Economic Development; and 0.5 to Interrelationships of Domestic and U.S. Export Programs.

D. Program of the State Agricultural Experiment Stations. Only one state has a project in this area. This project is very extensive and is an evaluation of the impact of United States agricultural export programs on domestic agriculture and related industries. It deals especially with the P.L. 480 program, but it also analyzes the history of United States proposals and programs to subsidize its agricultural products in the world markets. The research will appraise the impact of governmentally stimulated exports on the nonagricultural sector and determine the net economic benefits of such programs on the total economy of the United States through an evaluation of the inter-sector economic transfers within the economy. The total research efforts of the state stations devoted to export programs and market development is about 0.8 professional man-years.

REPORT OF PROGRESS

A. Effects of Public Law 480 on Economic Development and Trade. The final report on the effects of the P.L. 480 program in Colombia analyzed in depth the effects of P.L. 480 Title I imports upon production alternatives, consumer prices, consumption patterns, foreign trade patterns, balance of payments,

stabilization effects, and the use of local currency loans and grants in economic development. This study was published by Michigan State University, the contracting institution, under the title, Public Law 480 and Colombia's Economic Development.

Comprehensive reports on the operation of the P.L. 480 program in India and Turkey, submitted by the respective contracting institutions in those countries, provide an extensive compilation of price, production, trade, and consumption data not heretofore available. The analyses cover the implications of Title I imports for the domestic economies, particularly the relationships of food imports to domestic agricultural production, consumption, and trade, in the respective countries. It is expected that the contractors will desire to publish parts of the research that has been done on this subject.

The contract research studies underway in Spain and Greece are proceeding, but the submission of terminal reports has been delayed because of the difficulty of reconciling data and the unavoidable shifts in professional duties of personnel. Extensions to December 31, 1964, have been requested by the contracting research institutions in these countries to provide additional time for the completion of the final reports.

After deciding against implementation of a contract research study in Egypt, a special report on Public Law 480 and Other Economic Assistance to United Arab Republic (Egypt) was prepared by the staff. This report provided descriptive material on the scope of P.L. 480 food assistance to that country and analyzed various aspects of the Title I program and the future need for food assistance to meet Egypt's potential food deficit. Among the more significant findings in the staff study was that in view of the critical needs that existed, food assistance in many ways was as important as if its equivalent had been provided in the form of dollar capital aid.

Some progress was made in the overall evaluation of food program techniques with the view of exploring the desirability of initiating research activities concerned with the expanded use of direct food grants to support specific economic development projects, and the analysis of problems, obstacles, and opportunities for broadening the scope of international school lunch programs under Title II.

B. The Role of Food Aid in Economic Development. Some progress has been made in analyzing the trends and highlights of agricultural commodity aid, particularly P.L. 480, and its relationship to commercial agricultural exports and other U.S. economic assistance programs. A preliminary manuscript on this subject is being reviewed with the idea that parts of it may be suitable as a special report or published in an appropriate periodical.

C. Interrelationships of Domestic and U.S. Export Programs. Some progress has been made in the preparation of a report on international grain pricing differentials in which selected U.S. commodity export prices, domestic prices, and producer price supports are appraised in relation to import prices, producer price supports, and consumer or retail price levels in P.L. 480 and other grain importing countries.

AREA NO. 2--EXPORT PROGRAMS AND MARKET DEVELOPMENT

PUBLICATIONS

- X(1) Public Law 480 and Colombia's Economic Development. Lawrence W. Witt, Richard G. Wheeler, et al., Universidad Nacional de Colombia, Medellin, Colombia. March, 1964. 383 pp.
- X(2) Contribution of Public Law 480 to Development of the Greek Economy--A Preliminary Report. ERS-Foreign 66. Susan A. Libbin. January, 1964. 40 pp.
- (3) Public Law 480 and Other Economic Assistance to United Arab Republic (Egypt). ERS-Foreign 83. Haven D. Umstott. June, 1964. 34 pp.
- X(4) "Domestic and Foreign Market Potentials for Food Protein Products," Proceedings of Conference on Cottonseed Protein Concentrates, S.U.R.D.D., USDA, New Orleans, Louisiana. Frank D. Barlow, Jr. and H. Wayne Bitting. January, 1964. 24 pp.
- (5) "Protein Potentials Depend on Price and Promotion," The Cotton Gin and Oil Mill Press. Frank D. Barlow, Jr. and H. Wayne Bitting. March, 1964. 5 pp.
- (6) "Las Inportaciones Especiales de Productos Agricolas y el Desarrollo Economico de Colombia," Agricultura Tropical. Sergio Cardenas G. y Richard G. Wheeler. Bogota, Colombia. June, 1964. 68 pp.
- (7) "Posibilidades de Ajustes en la Produccion de Trigo y los Productos Competitivos de Clima Frio," submitted for publication in Revista del Facultad de Agronomia e Instituto Forestal. Dale W. Adams y Simeone Mancini. Medellin, Colombia. 1964. 38 pp.
- (8) "El Sector Agropecuario en el Desarrollo de la Economia Colombiana," submitted for publication in Economia Colombiana. Dale W. Adams y Arturo Tobon R. Bogota, Colombia, 1964. 40 pp.

AREA NO. 3

INTERNATIONAL MONETARY AND TRADE RESEARCH

Problem. The importance of agricultural exports in the context of present and prospective U.S. balance-of-payments problems continues to emphasize the importance of research in the monetary and financial area of trade and development programs and in the area of trade relationships as affected by policies of regional country groups. With continuing attention to the impact of U.S. foreign aid programs, both upon the U.S. economy and the economies of receiving countries, there is a constant need for analyzing the financial and economic position of foreign countries whose aid from the United States is composed in large part of Food-for-Peace shipments of surplus U.S. agricultural commodities. Required are constant reviews and utilization of economic data which are obtained from U.S. foreign service reports, the international financial institutions--such as the International Monetary Fund, the International Bank for Reconstruction and Development, and the Inter-American Development Bank--and from other domestic and foreign sources. These analyses are essential to support the Department's position in interagency discussions leading to the adoption of programs to provide maximum mutual development benefits in both the United States and the foreign countries involved.

There is a continuing need for a thorough study of price and trade policy trends in foreign commodity markets as these may aid or hinder the economic development of the countries the United States is seeking to help toward higher levels of economic development. Within the context of U.S. balance-of-payments considerations there is a continuing need to contribute to major studies of the credit financing systems of the United States and of countries competitive in export markets. There is a constant need for Departmental representation with other financial institutions and permanent representation at the National Advisory Staff Committee and Council levels which were established under Bretton Woods legislation.

PROGRAM

A. Financial and Monetary Aspects of P.L. 480 Programs. The basic program paper has been completed and published as noted under the Report of Progress Analyses of the short- and long-run effects of U.S. agricultural exports financed under various P.L. 480 Programs upon both the United States and the receiving country are continued on a current basis. Particular attention must be constantly given, within the requirements of pertinent legislation, to the accurate determination of exchange rates which shall be used for deposits of local currencies in the receiving countries. A major study on the mechanics of consummating P.L. 480 programs through the appropriate credit and financial institutions, both in the United States and receiving countries, was developed and completed during the year.

B. Significance of Public Law 480 to the Balance of Payments. Careful analyses of the role of P.L. 480 programs as administered by the United States Department of Agriculture permitted recommendations which contributed savings benefiting the U.S. balance of payments to the extent of several million dollars. This review was part of a government-wide study.

C. Analysis of the Role of Agricultural Credits in the Development of the Agricultural Sector in Underdeveloped Countries. The study initiated during the previous reporting period on the potential effect of agricultural development banks in Israel, Greece, Turkey, and Yugoslavia was continued during the current reporting period and additional data developed.

D. Analysis of the Implications for U.S. Foreign Trade of the European Economic Community and other Trading Associations. The emergence around the world of associations of nations intent on increasing their intra-regional trade poses potential threats to the export trade of the United States and other countries. Studies in this area are concerned with projecting the size and nature of foreign markets for U.S. agricultural commodities as influenced by policies abroad regarding agricultural protection and other measures affecting production, consumption, and trade.

E. Evaluation of International Commodity Agreements. The study of International Commodity Agreements only begun during the previous reporting period has developed further and still seeks to determine which commodities and what trading arrangements may offer opportunities for solving the various financial problems incurred by primary producing countries.

F. Special Economic Analyses. Professional man-years devoted to special economic studies on financial and monetary factors affecting U.S. agricultural trade and U.S. economic assistance programs totaled 2.0. These studies on financial and monetary programs involving agricultural programs on the international level were made to determine the Department of Agriculture's position and policy. The many financial crises in Latin America have resulted in numerous and continuing analyses of the economic situation in these countries to determine the justification for U.S. agricultural export programs. In recommending agricultural surplus disposal programs for this geographic area and other countries, special analyses were made to determine the type of program that would best serve the commercial interests of the United States and at the same time be the most beneficial to the recipient countries.

Total Federal scientific effort devoted to research in the monetary and financial and the trade research areas was 6.4 professional man-years, divided as follows: 0.9 to Financial and Monetary Aspects of P.L. 480 Programs; 0.4 to Transactions Affecting the U.S. Balance of Payments; 0.4 to an Analysis of the Role of Agricultural Credits in the Development of the Agricultural Sector in Underdeveloped Countries; 0.4 to Evaluation of International Commodity Agreements; 2.1 to Special Economic Analysis; 0.6 to the Area Committee for GATT "Kennedy Round" negotiations and 1.6 to Research in Trade Developments Affecting the Agricultural Trade of the United States with Common Market Countries.

REPORT OF PROGRESS

A. Analysis Indicates Title I and Title IV, P.L. 480 Programs Have Decided Impacts on Monetary Systems of Developing Countries. A study was completed and published as Foreign Agricultural Economic Report No. 12 in November 1963. A study of the financial mechanics of P.L. 480 programs was completed and published as Foreign Agricultural Economic Report No. 17 in May 1964.

B. Analysis of P.L. 480's Contribution to U.S. Balance of Payments. A government-wide review of the U.S. balance-of-payments included a complete analysis of P.L. 480's contribution to improving the payments position.

C. Agricultural Development Banks. Preliminary findings of this study have been developed and a report is scheduled for the current fiscal year.

D. Prospective Production and Demand in the European Economic Community. A special task force composed of personnel from several ERS Divisions has completed, for administrative use, a projection study aimed at evaluating levels of production, consumption and trade for grain and livestock products in the EEC in 1970 under selected alternative price assumptions. A publication containing key EEC time series on production, consumption and trade for these products during 1950-1962 is nearing completion and a companion piece containing graphic trend analysis of these series is under preparation. Investigation has been initiated and a report is scheduled for the current fiscal year on the livestock economy of the EEC aimed at evaluating supply and consumption trends over the next two or three years and the potential effect on exports of U.S. meat and grain.

Two contracts are currently outstanding for the study of aspects of production and consumption trends in the EEC: (1) Analysis of factors affecting France's potential for becoming an important exporter of livestock products to other European countries and probable impacts of current changes in the livestock and grain economy of France on foreign markets for U.S. grains and livestock products and (2) analysis of the import demand for oilseeds and oilseed products in countries of the European Economic Community and appraisal of the potential for expansion of imports of these commodities.

E. International Commodity Agreements. Work on this study has been advanced by a further accumulation of data and further analysis. Personnel responsible for final study attended final sessions of the United Nations Conference on Trade and Development in Geneva and developed further analysis based upon new developments at the Conference affecting such agreements. A report is scheduled for the current fiscal year.

F. Special Economic Analyses. Special economic studies on financial and monetary programs involving agricultural programs on the international level were made to determine the Department of Agriculture's position and policy. The many financial crises in Latin America have resulted in numerous, and continuing, analyses of the economic situation in these countries to determine the justification for U.S. agricultural export programs. In recommending agricultural surplus disposal programs to foreign countries, special analyses

were made to determine the type of program that would best serve the commercial interest of the United States and at the same time provide the most benefit to the recipient country. The continuing serious balance-of-payments situation in the United States, and consequent loss of gold from U.S. holdings, made it necessary to analyze all U.S. international agricultural programs from the highly technical point of view of the effect on the U.S. balance of payments. Analyses of financial and monetary developments in major trading countries and regions were made at frequent intervals. Many additional financial studies were required with the rapidly increasing number of independent nations in Africa and elsewhere. The expanded activities of the NAC (National Advisory Council on International Monetary and Financial Problems, established in accordance with the Bretton Woods Act) required a number of studies and analyses on international financial problems affecting the policy and programs of the Department of Agriculture.

AREA NO. 3--INTERNATIONAL MONETARY AND TRADE RESEARCH

PUBLICATIONS

- (1) Foreign Gold and Dollar Reserves: Foreign Holdings Rise, U.S. Private Capital Outflow Cited. Gabrielle P. Rice, November, 1963. 22 pp.
- (2) Monetary Effects of Financing Agricultural Exports Through Programs Under Titles I and IV, Public Law 480. FAER No. 12. Warrick E. Elrod, Jr. November, 1963. 28 pp.
- (3) "U.S. Agricultural Trade and Balance of Payments with OECD Countries," Foreign Agricultural Trade of the United States. McGehee H. Spears. April, 1964. (Reprinted as ERS-Foreign-85, May 1964). 15 pp.
- (4) Foreign Gold and Exchange Reserves: Current Situation and Long-Term Trends. O. H. Goolsby. May, 1964. 15 pp.
- (5) Financial Procedures Under Public Law 480, Emphasis on Titles I and IV of the Agricultural Trade Development and Assistance Act. FAER No. 17. John P. Bogumill and O. Halbert Goolsby. May, 1964. 20 pp.
- (6) "Monetary Problems and Trade," Farmer's World. 1964 Yearbook of Agriculture. Warrick E. Elrod, Jr. September, 1964. 5 pp.
- (7) "International Financial Services," Farmer's World. 1964 Yearbook of Agriculture. Warrick E. Elrod, Jr. September, 1964. 7 pp.
- (8) "The Use and Limitations of Import Coverage Statistics," Foreign Agricultural Trade of the United States. John P. Bogumill. October, 1964. 5 pp.

AREA NO. 4

TRADE STATISTICS AND ANALYSIS

Problem. U.S. agricultural exports reached a record high of \$6.1 billion in 1963-64, nearly \$1 billion above those of 1962-63. Practically all of the increase was in commercial sales for dollars, which were at an all-time high of \$4.5 billion, about three-fourths of the export total. Dollar exports exceeded the earlier record \$3.6 billion, set in the previous fiscal year, by nearly \$1 billion. Agricultural exports were \$2 billion larger than agricultural imports. This is the largest export balance in the period for which figures are available. The balance of trade has been highly favorable for the past several years reflecting the pronounced upward trend in agricultural exports. In 1963-64 the foreign market was an outlet for the production of one out of every 4 acres harvested in the United States. It is of concern to the United States that U.S. agricultural exports be maintained on an upward trend. Continuing studies are needed to determine whether or not the United States is sharing in the benefits from growing world markets and to determine the policies and actions needed to assure a continuous growth in U.S. farm product exports. The institution of a unified grain price level in the European Common Market which seemed imminent for some time during 1963-64 has been thwarted by a German veto. This has benefited the short-run prospects for U.S. grain exports, but has resulted in continued uncertainty about the long-run outlook. At stake are both the basic grain price level and the price relationship of wheat to feed grain prices. This action and other policy decisions made by regional trade blocs, including the European Common Market, the European Free Trade Association, and others will have a significant impact on U.S. agricultural exports. Also in view of growing interest in broader use of international commodity agreements studies need to be made to determine likely benefits and costs which may be experienced by the United States within the framework of such agreements. These developments must be continually followed, analyzed, and made available to those concerned with the maintenance and expansion of U.S. agricultural exports.

A continuing analysis of U.S. agricultural trade, including Food-for-Peace shipments, is needed to detect trade trends and problems and to determine the relevant economic and other factors that affect this trade. This information is used to provide agricultural producers, trade groups, and Government officials with a flow of statistics and interpretative reports on the status of and the outlook for U.S. agricultural exports and imports. These statistics and interpretative reports are in turn used in the formulation of policies, positions, and programs in the area of foreign marketing of U.S. farm products and of competition, both at home and abroad, from foreign farm products. Some of these areas are the expansion of commercial foreign markets for the nation's agricultural abundance, adjustment of domestic price support programs and production controls to domestic and foreign demand, import fees and quotas to restrict imports detrimental to U.S. agriculture, trade agreement concessions to open new markets for agricultural products, the U.S. Food-for-Peace Program

to share the nation's bounty with friendly people abroad, and export payments for some commodities to help make U.S. farm products competitive in world markets. More timely, precise and complete statistical data (including foreign price series) can improve the scope and depth of interpretations used in arriving at decisions on these and other problems facing U.S. agriculture.

PROGRAM

A. U.S. Agricultural Trade Situation. A continuing analysis of U.S. agricultural trade requires regular consultation and cooperation with various subject-matter specialists in commodity, regional, and program operations, daily research into news and other informational media and development of estimates of exports and imports for current and future periods. Export estimates are undertaken monthly and annually; import estimates, annually; and Food-for-Peace estimates, quarterly and annually.

A monthly analysis of U.S. trade developments is undertaken, including estimates of the quantity and value of U.S. agricultural exports for current months. The analysis consists of the determination of the quantity and value of U.S. exports by principal commodities and major commodity groups along with an evaluation of the factors and developments accounting for changes in agricultural exports compared with previous periods. In addition, an evaluation of the quantity and value of U.S. agricultural imports competitive (supplementary) and noncompetitive (complementary) with domestic production is undertaken.

Annual appraisals of U.S. agricultural trade (calendar and fiscal year) include Food-for-Peace shipments and total U.S. agricultural exports. Studies are made of the magnitude and trend of commercial exports for dollars. The continuing program includes the determination and appraisal of the value of foreign trade; quantity indexes of foreign agricultural trade; value of trade for selected commodities and groups; value of trade by countries of destination; and quantity and value of trade with specified countries and in principal agricultural products.

Considerable effort is devoted to the development of statistics showing the stakes of the individual States in U.S. agricultural exports and imports.

B. Exports under Food-for-Peace (Government-financed) Programs. A quarterly review of U.S. agricultural Food-for-Peace shipments by commodity is made. It includes an evaluation of the principal developments affecting such exports, as well as commercial sales for dollars. An annual evaluation is made on a fiscal year basis of the extent of assistance to U.S. agricultural exports by means of export payments in cash or in kind or by the sale for export of agricultural commodities from Government-owned stocks at less-than-domestic market prices. This analysis distinguishes between (1) commercial sales for dollars and exports under Government-financed programs which receive export payments assistance, and (2) dollar sales and program shipments which do not receive this form of assistance. The total value of such payments is also determined. An annual appraisal is made of U.S. agricultural trade by country for fiscal

and calendar years. This report distinguishes Food-for-Peace exports by program, commercial sales for dollars and total U.S. agricultural exports. Special studies are made of the magnitude and trend of program and commercial exports to provide information for developing new policies, programs, the establishment of attache posts, and export promotion activities for dollar sales.

C. U.S. and World Agricultural Trade Statistics. This program involves the assembly, tabulation, and summarization of U.S. agricultural export and import statistics, including Food-for-Peace exports, as well as interpretations of agricultural trade by commodity, by country, commodity by country, and country by commodity. Separate studies are made of the agricultural trade of certain trade blocs such as the European Economic Community, the European Trade Free Association, the Latin America Free Trade Association, and the Central American Common Market to show the relative position of U.S. trade as economic integration proceeds.

Studies of the effects of the European Economic Community on U.S. agricultural trade are concerned with the implications of the European Common Market for U.S. agriculture and how farm price and protection policies followed by the Common Market countries will affect prices, production, and consumption of farm products in these countries and thus influence U.S. farm export markets.

D. Analysis of World Agricultural Prices. This program involves the compilation and analysis of international prices for important agricultural commodities to determine the relationship of these prices to the level of U.S. agricultural exports, especially commercial sales for dollars. Using all available sources, such as the Food and Agriculture Organization, the European Economic Community, the Organization for Economic Cooperation and Development, and trade and official data from individual countries, tabulations of prices for major commodities accounting for the bulk of U.S. agricultural trade are made. The price series assembled are to be used to prepare analytical reviews of price trends in principal world markets. Particular emphasis is placed on price series in the European Economic Community and other trade blocs to show the competitive position of U.S. farm products in these trade areas.

E. Contracts: Bureau of the Census and Other Agencies for Source Data and Processing of Trade Statistics. Electronic data processing projects, including the purchase of magnetic tapes from various international organizations such as the United Nations and the Organization for Economic Cooperation and Development produce high speed numerical and alphabetical summaries of U.S. and world agricultural exports and imports, commodity by country, and country by commodity, and facilitate interpretations of the current situation of U.S. agricultural trade and its position in the major overseas markets.

F. Estimation of Costs and Benefits of Agricultural Protectionism. A grant for economic research to be conducted by the University of Minnesota was made in June 1964. This research is designed to (1) evaluate alternative techniques for measuring the influence of national agricultural and trade policies on the direction and volume of trade in temperate zone agricultural commodities, (2) assess the costs and benefits from agricultural protectionism on a

selected commodity and country basis in the North Atlantic Community and (3) develop and evaluate several alternative forms of international commodity arrangements aimed at reducing conflicts between domestic agricultural support and foreign trade in products of the grain-livestock economy.

Total Federal scientific effort devoted to research in this area was 8.6 professional man-years, divided as follows: 3.0 to U.S. Agricultural Trade Situation; 1.7 to U.S. and World Agricultural Trade Statistics, including the effects of EEC on U.S. Agricultural Trade; 2.2 to Exports Under Food-for-Peace (Government-financed) Programs; 1.1 to World Agricultural Prices; and 0.6 to Contracts with the U.S. Bureau of the Census, Organization for Economic Cooperation and Development and the United Nations for source data and processing of trade statistics.

G. Program of the State Agricultural Experiment Stations. There is only one project at the state stations in this area. The project seeks to describe changes in the volume, origins, and destinations of agricultural exports and imports. It analyzes the influence of private trade practices and governmental policies and programs on relative prices and volume flows for agricultural commodities in foreign markets. It is especially concerned with the potential of foreign markets for West Coast agricultural products.

REPORT OF PROGRESS

A. U.S. Agricultural Trade Situation.

Agricultural Exports Reached Record Level in Fiscal Year 1963-64. U.S. agricultural exports for the fiscal year that ended June 30, 1964 totaled \$6,076 million, 20 percent larger than the \$5,078 million for the previous year. Principal increases occurred in wheat and flour, cotton, feed grains, soybeans, rice, tobacco, tallow, lard, dairy products, poultry products, and meat. It is estimated that 80 million acres were required to produce the various agricultural commodities exported in 1963-64. This is equivalent to 1 out of every 4 harvested acres in the United States. On a value basis, agricultural exports were equivalent to 16 percent of total cash receipts from U.S. farm marketings. Exports in 1963-64 accounted for nearly three-fourths of the wheat production; two-thirds of the rice and nonfat dry milk; half of the dry edible peas; over two-fifths of the tallow, soybeans, and hops; about one-third of the cotton, rye, and prunes; around one-fourth of the lard, dry whole milk, tobacco, and cottonseed; and one-fifth of the raisins and dry edible beans.

A number of factors contributed to the \$1 billion gain in U.S. agricultural exports for 1963-64, including U.S. market development efforts abroad, the economic advancement of Western Europe and Japan, expanding population, improving diets, unfavorable wheat harvests in the Soviet Union and Western Europe, competitive pricing, better quality of U.S. exports, and improved services to exporters. The rapid growth in disposable incomes in the industrialized countries of Western Europe and Japan encouraged consumers in those countries to upgrade their diets with a greater variety of foods, especially livestock products.

Exports to European Common Market Advanced. U.S. agricultural exports to the European Economic Community advanced to \$1,321 million in fiscal year 1963-64 from \$1,070 million a year earlier, a gain of nearly one-fourth. Exports of commodities subject to the variable levies rose to \$434 million from \$380 million. The gain resulted from a sharp rise in wheat and pork, with smaller increases for feed grains, turkey meat, stewing chickens, and canned poultry. The variable levies continued to hold down U.S. shipments of wheat flour, broilers, and fryers. Agricultural commodities to the EEC not subject to the variable levies rose to \$888 million in 1963-64 compared with \$689 million a year earlier. Over half of the nearly 30 percent increase in this category was due to exports of cotton. A special study is underway to show the importance of U.S. agricultural commodity shipments to the trade areas in Latin America -- The Latin American Free Trade Association and the Central American Common Market. Findings are expected to be published late in 1964.

Compilation of Data on Export and Import Equivalents by States Was Stepped Up. As a result of stepped-up demand for information on the vital stake that the individual States of the Union have in U.S. foreign agricultural trade, export and import equivalents by States were compiled for fiscal year 1962-63 and made available in a departmental release. States with the largest share of agricultural exports in 1962-63 were California (\$497 million) and Texas (\$453 million). Exports for 1963-64 will be more precisely attributed to appropriate States through share of production and share of farm sales as reported for more recent periods than that shown by the 1959 Census of Agriculture which was used for the 1962-63 study. Import shares by States for this year are also to be developed.

U.S. Agricultural Imports Increased 5 Percent in Fiscal Year 1963-64 Over the Previous Year. A continuing analysis shows that agricultural imports for consumption for the year ended June 30, 1964 rose to \$4,095 million from \$3,907 million in the previous year, a gain of 5 percent. The increase resulted primarily from larger imports of complementary (noncompetitive) products since imports of supplementary (partially competitive) commodities were about equal to the level of the previous year. Imports of supplementary products totaled \$2,224 million, slightly above last year's \$2,208 million. Declines in imports of cane sugar, dutiable cattle, apparel wool, and oilseeds and products were offset by larger imports of fruits, grains, nuts, vegetables, and tobacco. While less sugar was imported last year, the value of supplementary imports was well maintained as a result of higher sugar prices. Total imports of meats and products increased to \$519 million in 1963-64 from \$514 million in the previous year. Declines occurred in imports of pork, principally hams and shoulders, and mutton. Imports of beef and veal increased slightly over the levels of a year ago; however, they have been declining since January 1964.

B. Exports Under Food-for-Peace (Government-financed) Programs and Exports for Dollars. Exports under Food-for-Peace Programs in 1963-64 totaled \$1,566 million (preliminary) only slightly above those of the preceding year. These programs represented 26 percent of total exports of farm products in 1963-64, compared with 30 percent a year earlier. Exports under Government-financed programs in 1963-64 were \$0.7 billion larger than in 1954-55. This represented one-fourth of the advance in total agricultural exports between the

first and last years of the period. U.S. farm products totaling \$14.3 billion were exported under Government programs during the ten years. This was 32 percent of total exports. Eighty-five percent of program shipments, \$12.2 billion, were exported under P.L. 480 and 15 percent, \$2.1 billion, under Mutual Security (AID) programs. These programs have promoted economic growth in the less developed countries, hastening the day when they will become partners in commercial trade.

The rise of nearly \$1 billion in dollar exports to an all-time high of \$4,510 million (preliminary) in 1963-64 from \$3,536 million a year earlier accounted for nearly all of the increase in U.S. agricultural exports. Unfavorable wheat harvests in Western Europe and Soviet Bloc countries contributed to the \$328 million advance in dollar sales of wheat and flour, which represented 40 percent of total exports of this commodity in 1964 compared with 24 percent in 1963. The over \$200 million rise in dollar exports of cotton was stimulated by sales of CCC-owned stocks for export at competitive prices. Dollar sales of U.S. meat and livestock products rose \$114 million. Larger disposable incomes in the industrialized countries of Western Europe and Japan have resulted in dietary changes which have increased the demand for U.S. meat and livestock consumer products. The growing livestock industry in these industrialized areas contributed to the increase of \$94 million in dollar exports of feed grains and the rise of \$82 million in exports of soybeans for dollars. The over \$50 million advance in commercial exports of dairy products was stimulated by the payment-in-kind programs for nonfat dry milk and for butter, butteroil, and other products containing 75 percent or more milkfat.

Exports for dollars increased \$2.2 billion during the ten years since the beginning of P.L. 480 and accounted for three-quarters of the increase in exports of U.S. farm products. Dollar exports totaled \$30.5 billion during the 10-year period, 68 percent of the export total.

Export Payment Assistance to U.S. Agricultural Exports. Of the total of \$4,510 million farm products exported for dollars in fiscal year 1964, nearly 30 percent received the assistance of export payments compared with 20 percent in 1963. Increased dollar shipments of wheat, cotton, rice, and certain dairy products which received export payments accounted for the larger proportion of assisted dollar exports in 1964. Program exports receiving export payments totaled around 60 percent during both years. Export payments amounted to over \$800 million in fiscal year 1964 compared with more than \$600 million in 1963. During the 10-year period, fiscal years 1955 through 1964, 47 percent of U.S. agricultural exports have been unassisted commercial sales for dollars, 21 percent dollar sales with the assistance of export payments, and the remaining 32 percent, program exports.

Revaluation and Retabulation of Title II Donations. Available reports of shipments under the Title II donations program include values at full reimbursement cost to CCC, reported by date of recording in the Fiscal Division of the Agricultural Stabilization and Conservation Service. To overcome the difficulties encountered in the preparation of reports of exports under Government programs because of the noncomparability of Title II shipment data with reports of exports from the Bureau of the Census, the revaluation of these

shipments at estimated export market value and retabulation by date of export was undertaken for the 10 years 1955-64. This work is now completed for the 10-year period and a publication is in process which will report Government program exports, dollar exports, and total agricultural exports by commodity--value and quantity--for each year of the period, incorporating revisions in Title II data, as well as revisions in other programs and in total exports. A similar report will be prepared by country for fiscal years and later in the year similar reports by commodity and country for 10 calendar years.

C. U.S. and World Trade Statistics and Analysis. To update essential statistical and other material for analyzing the impact of the European Economic Community's (EEC's) Common Agricultural Policy on U.S. agricultural trade, a supplement was issued to the Common Market sourcebook published in 1962. The supplement added 1961 and 1962 information to the figures for 1951 through 1960 as published in the original issue of 1962.

Since preparation of the Common Market sourcebook, which was concerned with possible enlargement of the Common Market, the veto of British entry by France dimmed the chances of such enlargement in the foreseeable future. Consequently, statistical emphasis was switched from showing essentially the position of the United States in the original EEC market and a possibly enlarged EEC market to showing the position of other areas as well as the United States in the two established economically integrated areas in Europe: The EEC and the EFTA (European Free Trade Association). To accomplish this end, work was begun to compile data on imports into the EEC for a 5-year period showing expanded information on areas of origin. The study will make it possible to compare the position of the United States with that of EFTA, the European Soviet Bloc, EEC associated overseas countries, and the British Commonwealth in the EEC market for commodities important in U.S. farm-product exports.

Work continued during the past year on a study to show for calendar year 1963 the overall impact of the variable levy system as well as other pertinent factors affecting U.S. agricultural trade with EEC in especially injured commodities like wheat flour and poultry meat. Steps have been taken to overcome operating difficulties arising from delays in availability of national statistics by the purchase of tapes from international agencies. Looking ahead to the availability of computer tapes from OECD, special tabulations were designed to show OECD agricultural imports and exports arranged in commodity by country and country by commodity order for analytical and publication purposes. A contract was entered into with a private firm for the development of a computer program for this purpose.

Preliminary planning was begun for a considerably expanded program of tabulating individual country imports and exports of agricultural commodities from United Nation tapes beginning in fiscal year 1965-66 with data for calendar year 1964. This project of statistical compilation and analysis will provide trade information for some 80 countries and for the first time make available comprehensive and systematically organized data on the agricultural trade of these countries.

EFTA Imports Analyzed. Interest in EFTA--long overshadowed by EEC--was revived last year by France's veto of British membership. A study was initiated and published on the importance of agricultural commodities in the EFTA market to show the strong position of U.S. agricultural commodities in that market. EFTA imports from the United States have averaged over \$800 million annually, principally to the United Kingdom, nearly all paid for in dollars. The U.S. share in EFTA agricultural imports has averaged around 11 percent in the past 5 years compared with 15 percent in the EEC agricultural import market.

D. Analysis of World Agricultural Prices. Compilations of international price data from all available sources, including data from international organizations and individual countries are being made. Available commodity price indexes were surveyed. In view of the paramount importance to U.S. agriculture of future access to the European Common Market available resources have been concentrated on compiling and analyzing grain prices in the Common Market countries. The available price series are being used for an analysis of marketing margins from farm to central market. To show the competitive position of U.S. farm products in these countries, an evaluation of the preferential treatment which Common Market countries accord to each other's products under their "Common Agricultural Policy" is in progress. Special attention has been given to the resolution of serious shortcomings in the Italian price reporting system. These shortcomings must be resolved to permit the compilation of meaningful price series and their analysis in terms of the relationship of the prices of various grains to each other, their regional and quality differentials and their relationship to the prices of grains imported from the U.S. and other countries of origin.

E. Contracts

Contracts With the Bureau of the Census and Other Agencies. Contracts were inaugurated in the past year to extend the work done by automatic data processing. A contract was entered into with a private firm to develop a program for preparing special tabulations of imports and exports of agricultural commodities by major European countries in calendar year 1963 from magnetic tapes purchased from OECD. A contract was entered into with the United Nations to purchase magnetic tapes for a number of countries in order that tabulations could be prepared showing the agricultural exports and imports of the major trading countries of the world for calendar year 1964. In addition, studies were made to initiate a considerably expanded program for tabulating this kind of information from UN tapes beginning in 1965-66. Studies were continued on the feasibility of having exports under Government-financed programs tabulated by automatic data processing equipment.

F. Other

Common Market Commission proposals for a sugar policy were analyzed in a study published in the ERS-Foreign series and in Foreign Agricultural Trade of the United States. These proposals are of interest to the U.S. in view of (1) the proposed coordination of the EEC policy on sugar with that on grains (2) the proposed subjection to a variable levy of the cane or beet sugar content of

canned fruit imports, (3) the position of the U.S. as a sugar importer from the EEC (mostly from the French West Indies), and (4) the effect on EEC sugar imports from Latin America which in turn may have some effect on Latin American purchasing power for U.S. products.

For administrative use, the foreign trade impact of various courses of action under authority of the Feed Grain Act of 1963 relating to the diversion of acreage from feed grains to guar, castorbeans, sesame seed and some other designated crops was analyzed.

A number of significant advances during the year resulted in expanding and improving services to the public. These services included periodic briefings on the U.S. agricultural trade situation to key personnel in the Economic Research Service and the Foreign Agricultural Service. Special reports and analyses were furnished the Office of the Secretary and other key personnel in regard to the impact of increased imports of meats into the United States. Studies on the impact of the variable levies imposed by the European Economic Community on U.S. agricultural exports were made for the Secretary's Office. Estimates of exports under Government-financed programs, commercial sales, and total agricultural exports were made throughout the year. Information in regard to exports and/or imports was furnished for inclusion in the President's report to Congress on the operation of P.L. 480, the Handbook of Agricultural Charts, Agricultural Statistics, the Statistical Abstract of the United States and in publications of international organizations. Special reports were furnished the Office of Food for Peace, the Foreign Agricultural Service, and the Economic Research Service for various uses. The Branch participated in the work of the Budget Bureau Interagency Advisory Committee on Foreign Trade Statistics, including assistance in the establishment of new Census Bureau foreign trade commodity classification systems.

AREA NO. 4--TRADE STATISTICS AND ANALYSIS

PUBLICATIONS

- (1) "U.S. Trade with the European Soviet Bloc," Foreign Agricultural Trade of the United States. Alex D. Angelidis and Robert L. Tontz. October, 1963. Reprinted as ERS-Foreign-65. 8 pp.
- (2) "Export and Import Highlights and Digests of U.S. Agricultural Trade, Foreign Agricultural Trade of the United States. October 1963-September 1964. Average 22 pp., 9 issues.
- (3) "Government Program Export Highlights," quarterly for fiscal and calendar years by commodity and fiscal and calendar years by country. Foreign Agricultural Trade of the United States. October 1963-September 1964. Average 9 pp., 6 issues
- (4) "U.S. Agricultural Export Prospects for Fiscal Year 1963-64," Foreign Agricultural Trade of the United States. November-December 1963. 7 pp.
- (5) "Regional Distribution of Exports," Foreign Agricultural Trade of the United States. Alex D. Angelidis and Dewain H. Rahe. November-December 1963. 24 pp.
- (6) "Annual Supplement, Trade by Countries," Foreign Agricultural Trade of the United States, Calendar Year 1962. November, 1963. 81 pp.
- (7) "U.S. Agricultural Exports Up to Asia and Latin American but Down Elsewhere in 1962-63," Foreign Agricultural Trade of the United States. Dewain H. Rahe. January, 1964. 27 pp.
- (8) "Export Fact Sheet, Fiscal Year 1962-63," Foreign Agricultural Trade of the United States. January, 1964. Reprinted as ERS-Foreign-81. 4 pp.
- (9) "Export Payment Assistance to U.S. Agricultural Exports, Year Ended June 30, 1963," Foreign Agricultural Trade of the United States. Eleanor N. DeBlois. February-March, 1964. Reprinted as ERS-Foreign-79. 10 pp.
- (10) "U.S. Agricultural Exports Reached a Record \$5.6 Billion in 1963," Foreign Agricultural Trade of the United States. February-March, 1964. 4 pp.
- (11) "Imports of Fruits and Vegetables under Quarantine, Fiscal Year 1962-63," Foreign Agricultural Trade of the United States. February-March, 1964. 13 pp.
- (12) "Annual Supplement, Trade by Commodities," Foreign Agricultural Trade of the United States, Fiscal Year 1962-63. March, 1964. 41 pp.

- (13) "U.S. Agricultural Imports by Origin, Fiscal Years 1958-63," Foreign Agricultural Trade of the United States. Dewain H. Rahe. April, 1964. 28 pp.
- (14) "Import Fact Sheet, Fiscal Year 1963," Foreign Agricultural Trade of the United States. April, 1964. Reprinted as ERS-Foreign-81. 6 pp.
- (15) Supplement to Statistics on the European Economic Community, Volume 1: Agricultural Trade and Finance. ERS-Foreign-43. May, 1964. 77 pp.
- (16) "Annual Supplement, Trade by Countries," Foreign Agricultural Trade of the United States, Fiscal Year 1962-63. May, 1964. 82 pp.
- (17) Agricultural Export Equivalents by States. May 19, 1964. 4 pp.
- (18) "EFTA's Agricultural Imports," Foreign Agricultural Trade of the United States. Dewain H. Rahe. June, 1964. Reprinted as ERS-Foreign-90. 16 pp.
- (19) "Government Program and Commercial Exports in Calendar Year 1963," Foreign Agricultural Trade of the United States. Eleanor N. DeBlois. June, 1964. Reprinted as ERS-Foreign-91. 11 pp.
- (20) "European 'Common Agricultural Policy' on Sugar," Foreign Agricultural Trade of the United States. Hans G. Hirsch. June, 1964. Reprinted as ERS-Foreign-89. 8 pp.
- (21) "Annual Supplement, Trade by Commodities," Foreign Agricultural Trade of the United States, Calendar Year 1963. June, 1964. 41 pp.
- (22) "U.S. Agricultural Exports Reached All-time High of \$6.1 Billion in Fiscal Year 1963-64," Foreign Agricultural Trade of the United States. Robert L. Tontz and Dewain H. Rahe. July-August, 1964. Reprinted as ERS-Foreign-93. 7 pp.
- (23) "Our Agricultural Imports," 1964 Yearbook of Agriculture, Farmer's World. Alex D. Angelidis. September, 1964. 5 pp.
- (24) "Our Agricultural Exports," 1964 Yearbook of Agriculture, Farmer's World, Robert L. Tontz and Dewain H. Rahe. September, 1964. 5 pp.

Line Project Check List--Reporting Year October 1, 1963 to September 30, 1964

Work and Line Project Number	Work and Line Project Titles	Work Locations During Past Year	Line Proj. Incl. in	
			Summary of Progress	Area and Subheading
DTA 1	Foreign Economic Development Research	Washington, D.C.	Yes	1-A,B,C,D,E
DTA 1-1	Analyses of the Role of Agriculture in Foreign Economic Development and Growth	Washington, D.C.	Yes	1-A
DTA 1-3	Analysis of Ways of Increasing Farm Productivity to Meet World Food Needs	Washington, D.C.	Yes	1-C,E
DTA 1-4	Effects of Foreign Economic Development On Demand for U.S. Farm Products	Washington, D.C.	Yes	1-B,D
(DTA-0-0-1-(AID))	Factors Associated with Differences and Changes in Agricultural Production in Underdeveloped Countries	Washington, D.C.	Yes	1-F
S5-ERS-2(a)	Marketing Rice in Colombia	Bogota, Colombia	No	1-G
S5-ERS-3(k)	Economic Aspects of the Production, Marketing and Utilization of Corn and Other Feed Grains in Colombia	Medellin, Colombia	No	1-G
E8-ERS-1(k)	The Relation of Management and Planning to Success in Farming	Helsinki, Finland	No	1-G
E8-ERS-2(k)	Study of the Economics of Alternative Use of Land for Agriculture and Forestry	Helsinki, Finland	No	1-G
A10-ERS-1(k)	Social Factors Which Promote or Impede Changes in Agriculture Organization and Production	Hebrew University, Jerusalem, Israel	No	1-G
A10-ERS-2(k)	Evaluation of Long-Term Programs for Agriculture with Respect to Requirements and Supply of Capital	Hebrew University, Jerusalem, Israel	No	1-G
A10-ERS-3(k)	Quantitative Analysis of Optimal Water Resource Development and Allocation	Hebrew University, Jerusalem, Israel	No	1-G
A10-ERS-4(k)	Comparative Analyses of Processes of Agricultural Development and Modernization in Israel	Hebrew University, Jerusalem, Israel	No	1-G
A10-ERS-9(k)	Methods of Compilation of Agricultural Statistics in Israel	Hebrew University, Jerusalem, Israel	No	1-G
S25-ERS-1(k)	Food Consumption in Relation to Family Income in the Rural Population in Spain	Madrid, Spain	No	1-G
A18-DTA-1(a)	Economic Analysis of the Effects of Philippine Economic Development on the Demand for U.S. Farm Products, Proj. No. 311343-54	Manila, Philippines	No	1-G
A7-ERS-11	A Study of the Impact of Changing Conditions on Grain Marketing Institutions and Structure of Grain Markets	Punjab, India	No	1-G
A7-ERS-12	Evaluation of the Impact of Land Reforms on the Structure of Land Holdings and Farm Production Potentials	Punjab, India	No	1-G
A17-ERS-2	Income Elasticity of Demand for Food Under Progressing Stages of Agricultural Development in Pakistan	Karachi, Pakistan	No	1-G
A22-DTA-1(a)	Analysis and Assessment of the Effectiveness of Title I, P.L. 480 Operations in Turkey	Ankara and Istanbul, Turkey	Yes	2-A
S5-DTA-1(a)	Analysis and Assessment of the Effectiveness of Title I, P.L. 480 Operations in Colombia	Bogota and Medellin, Colombia	Yes	2-A
E25-DTA-1(a)	Analysis and Assessment of the Effectiveness of Title I, P.L. 480 Operations in Spain	Madrid, Spain	No	2-A
A7-DTA-1(a)	Analysis and Assessment of the Effectiveness of Title I, P.L. 480 Operations in India	Poona, India	Yes	2-A

Line Project Check List--Reporting Year October 1, 1963 to September 30, 1964

Work and Line Project Number	Work and Line Project Titles	Work Locations During Past Year	Line Proj. Incl. in	
			Summary of Progress	Area and Subheading
Ell-DTA-1(a)	Analysis and Assessment of the Effectiveness of Title I, P.L. 480 Operations in Greece	Athens, Greece	Yes	2-A
DTA 3	International Monetary Research	Washington, D.C.	Yes	3-D
DTA 3-1	Analysis of the Role of Agricultural Credits in the Development of the Agricultural Economy of Foreign Countries	Washington, D.C.	Yes	3-D
DTA 4-1	Analysis of U.S. Agricultural Trade	Washington, D.C.	Yes	4-A
DTA 4-2	Trade Analysis and Development of World Statistics on International Trade	Washington, D.C.	Yes	4-C
DTA 4-3	Exports Under Food-for-Peace (Government- financed) Programs	Washington, D.C.	Yes	4-B
DTA 4-4	Analysis of World Agricultural Prices	Washington, D.C.	Yes	4-D
DTA 4-5 (Gr.)	Estimation of Costs and Benefits from Agricultural Protectionism in the Atlantic Community and Development of International Trading Arrangements Designed to Reduce Conflicts Between Domestic Agri- cultural Support and Foreign Trade in Live- stock and Grain Products	Minneapolis, Minnesota	No	4-F

